FIG. 1

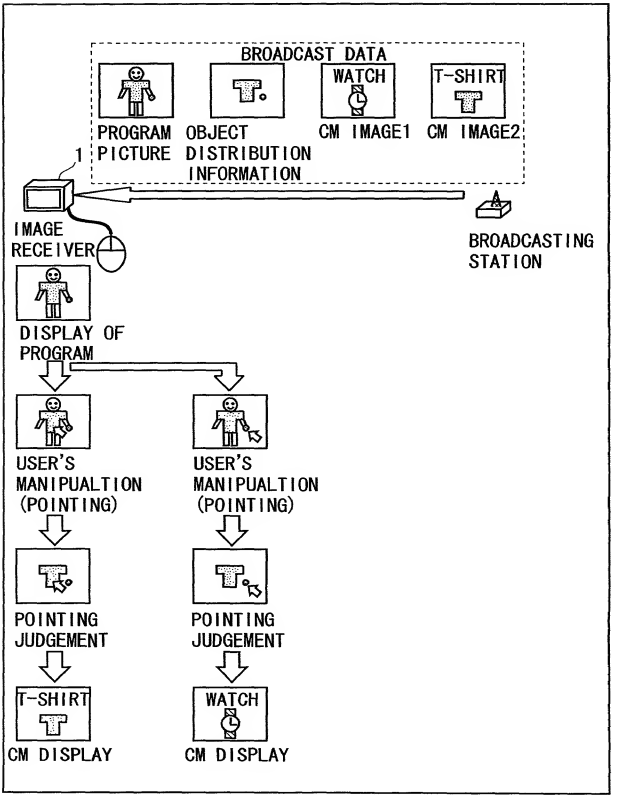

BROADCAST DATA
WATCH
T-SHIRT
PROGRAM PICTURE
OBJECT DISTRIBUTION INFORMATION
CM IMAGE1
CM IMAGE2
1
IMAGE RECEIVER
BROADCASTING STATION
DISPLAY OF PROGRAM
USER'S MANIPUALTION (POINTING)
USER'S MANIPUALTION (POINTING)
POINTING JUDGEMENT
POINTING JUDGEMENT
T-SHIRT
WATCH
CM DISPLAY
CM DISPLAY

FIG. 2

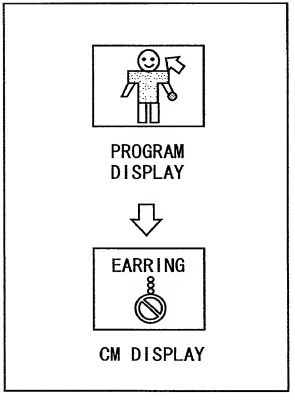


FIG. 3

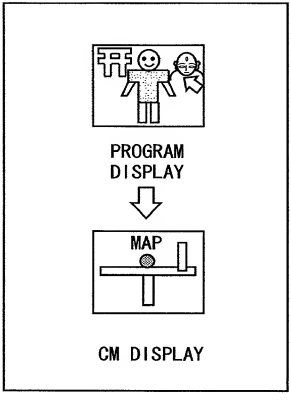


FIG. 4

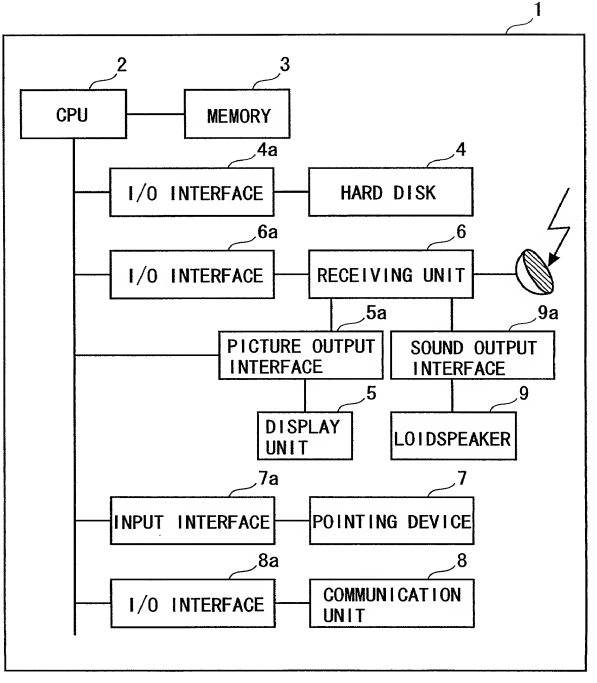
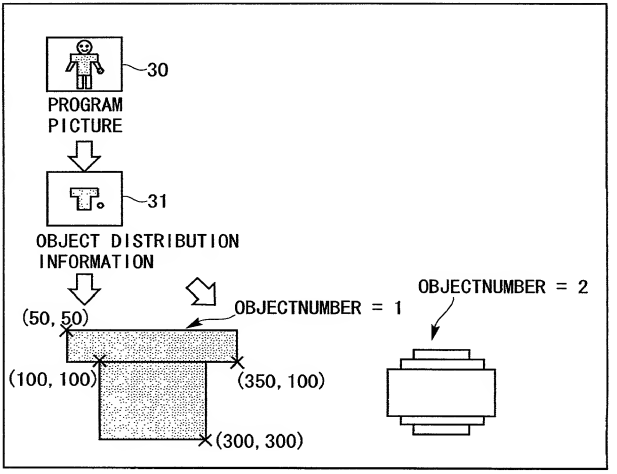

1
2
CPU
3
MEMORY
4a
I/O INTERFACE
4
HARD DISK
6a
I/O INTERFACE
6
RECEIVING UNIT
5a
PICTURE OUTPUT INTERFACE
9a
SOUND OUTPUT INTERFACE
5
DISPLAY UNIT
9
LOIDSPEAKER
7a
INPUT INTERFACE
7
POINTING DEVICE
8a
I/O INTERFACE
8
COMMUNICATION UNIT

FIG. 5


30
PROGRAM
PICTURE
31
OBJECT DISTRIBUTION
INFORMATION
OBJECTNUMBER = 1
OBJECTNUMBER = 2
(50, 50)
(100, 100)
(350, 100)
(300, 300)

US 6,606,660

FIG. 6

PROGRAM IDENTIFYING INFORMATION (CHANNEL NUMBER, PROGRAM NAME)					33
CH1, MISTERIOUS STORY NO. 52					
FRAME IDENTIFYING INFORMATION (TOTAL FRAME COUNT FROM BEGINNING OF PROGRAM)					34
3420TH FRAME					
OBJECT SHAPE INFORMATION					35
OBJECT NUMBER	X1	Y1	X2	Y2	
1	50	50	350	100	
1	100	100	300	300	
2	365	150	385	155	
2	355	155	395	160	
2	345	160	405	180	
2	355	180	395	185	
2	365	185	385	190	

KR 10-2005-0055660

FIG. 7

PROGRAM IDENTIFYING INFORMATION (CHANNEL NUMBER, PROGRAM NAME)		33
CH1, MISTERIOUS STORY NO. 52		
OBJECT NUMBER	HEAD ADDRESS OF COMMECIAL IMAGE	36
1	0x00010000	
2	0x00020000	
⋮	⋮	

FIG. 8

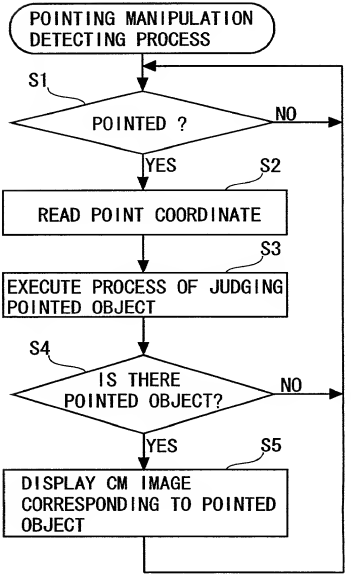

POINTING MANIPULATION DETECTING PROCESS
S1
POINTED ?
NO
YES
S2
READ POINT COORDINATE
S3
EXECUTE PROCESS OF JUDGING POINTED OBJECT
S4
IS THERE POINTED OBJECT?
NO
YES
S5
DISPLAY CM IMAGE CORRESPONDING TO POINTED OBJECT

FIG. 9

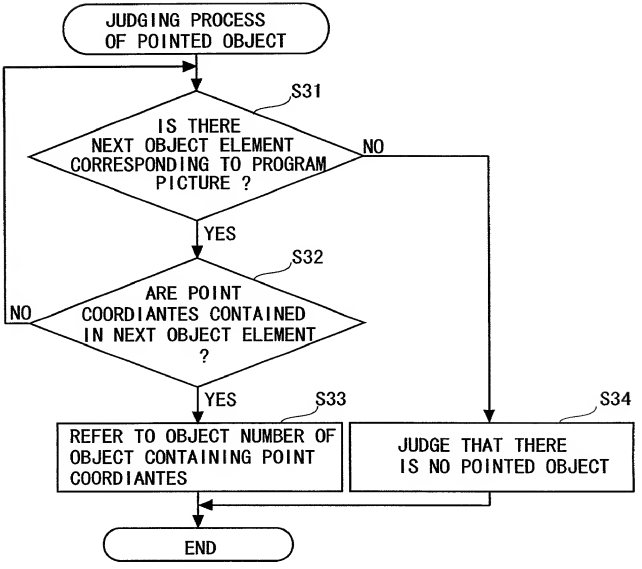

JUDGING PROCESS OF POINTED OBJECT
S31
IS THERE NEXT OBJECT ELEMENT CORRESPONDING TO PROGRAM PICTURE ?
NO
YES
S32
ARE POINT COORDIANTES CONTAINED IN NEXT OBJECT ELEMENT ?
NO
YES
S33
REFER TO OBJECT NUMBER OF OBJECT CONTAINING POINT COORDIANTES
S34
JUDGE THAT THERE IS NO POINTED OBJECT
END

FIG. 10

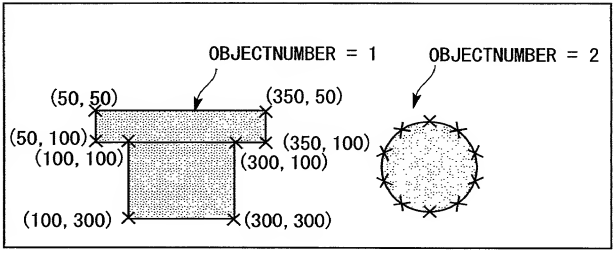

OBJECTNUMBER = 1
OBJECTNUMBER = 2
(50, 50)
(350, 50)
(50, 100)
(350, 100)
(100, 100)
(300, 100)
(100, 300)
(300, 300)

FIG. 11

PROGRAM IDENTIFYING INFORMATION (CHANNEL NUMBER, PROGRAM NAME)		
CH1, MISTERIOUS STORY NO. 52		33
FRAME IDENTIFYING INFORMATION (TOTAL FRAME COUNT FROM BEGINNING OF PROGRAM)		
3420TH FRAME		34
OBJECT DISTRIBUTION INFORMATION		
OBJECT NUMBER	X	Y
1	50	50
	50	100
	100	100
	100	300
	300	300
	300	100
	350	100
	350	50
2	375	150
	365	155
	350	170
	355	185
	360	195
	370	200
	385	195
	395	190
	400	175
	390	160

35a

FIG. 12

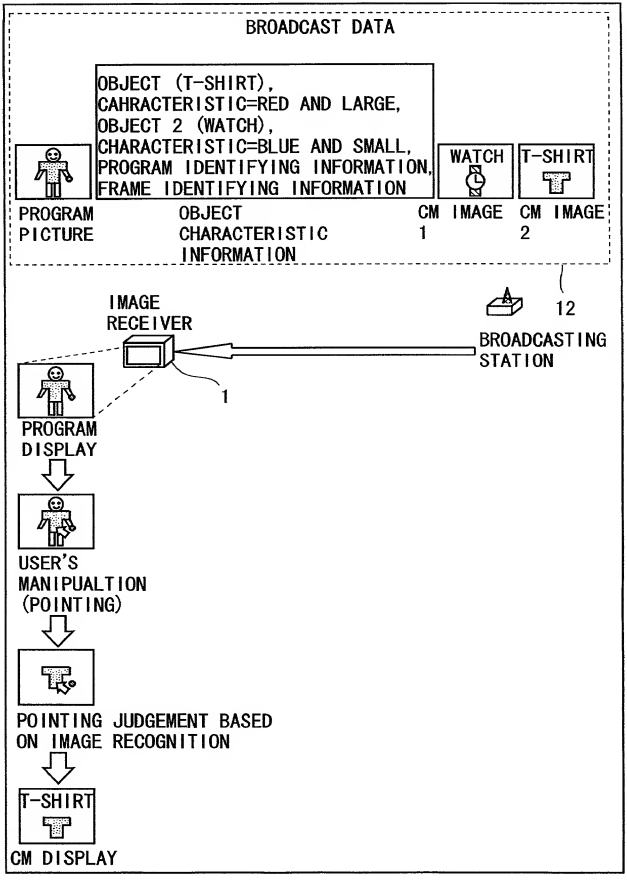

BROADCAST DATA
OBJECT (T-SHIRT),
CAHRACTERISTIC=RED AND LARGE,
OBJECT 2 (WATCH),
CHARACTERISTIC=BLUE AND SMALL,
PROGRAM IDENTIFYING INFORMATION,
FRAME IDENTIFYING INFORMATION
WATCH
T-SHIRT
PROGRAM PICTURE
OBJECT CHARACTERISTIC INFORMATION
CM IMAGE 1
CM IMAGE 2
12
BROADCASTING STATION
IMAGE RECEIVER
1
PROGRAM DISPLAY
USER'S MANIPUALTION (POINTING)
POINTING JUDGEMENT BASED ON IMAGE RECOGNITION
T-SHIRT
CM DISPLAY

FIG. 13

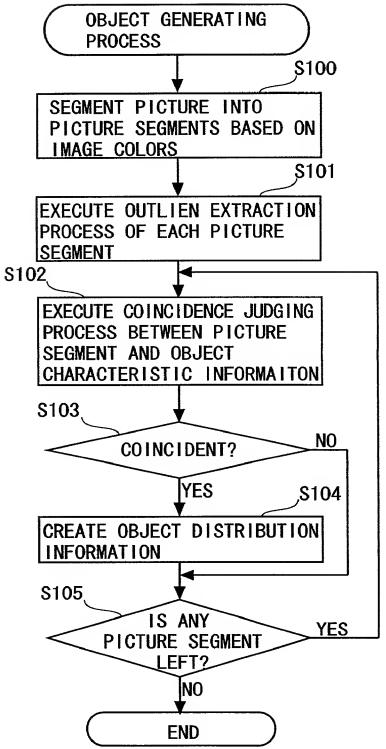

OBJECT GENERATING PROCESS
S100
SEGMENT PICTURE INTO PICTURE SEGMENTS BASED ON IMAGE COLORS
S101
EXECUTE OUTLIEN EXTRACTION PROCESS OF EACH PICTURE SEGMENT
S102
EXECUTE COINCIDENCE JUDGING PROCESS BETWEEN PICTURE SEGMENT AND OBJECT CHARACTERISTIC INFORMAITON
S103
COINCIDENT?
NO
YES
S104
CREATE OBJECT DISTRIBUTION INFORMATION
S105
IS ANY PICTURE SEGMENT LEFT?
YES
NO
END

FIG. 14

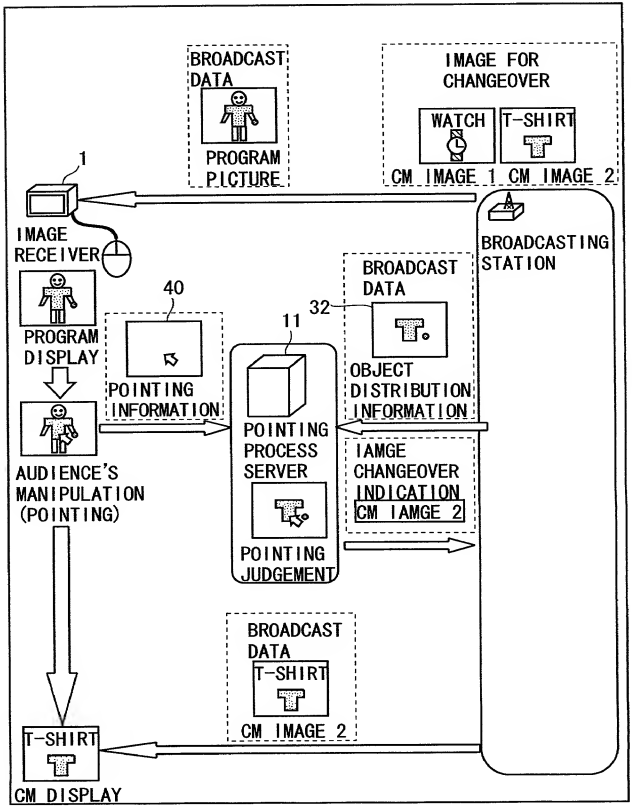
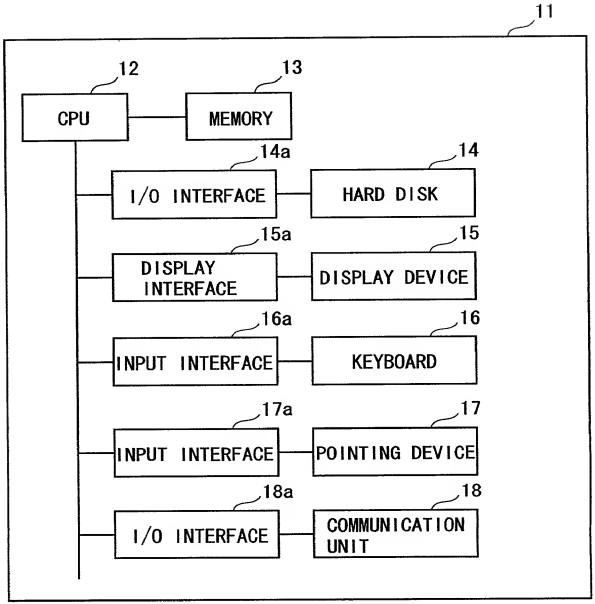

BROADCAST DATA
PROGRAM PICTURE
IMAGE FOR CHANGEOVER
WATCH
T-SHIRT
CM IMAGE 1
CM IMAGE 2
1
IMAGE RECEIVER
BROADCASTING STATION
BROADCAST DATA
40
32
11
PROGRAM DISPLAY
POINTING INFORMATION
OBJECT DISTRIBUTION INFORMATION
POINTING PROCESS SERVER
IAMGE CHANGEOVER INDICATION
CM IAMGE 2
AUDIENCE'S MANIPULATION (POINTING)
POINTING JUDGEMENT
BROADCAST DATA
T-SHIRT
CM IMAGE 2
T-SHIRT
CM DISPLAY

FIG. 15


11
12
CPU
13
MEMORY
14a
I/O INTERFACE
14
HARD DISK
15a
DISPLAY INTERFACE
15
DISPLAY DEVICE
16a
INPUT INTERFACE
16
KEYBOARD
17a
INPUT INTERFACE
17
POINTING DEVICE
18a
I/O INTERFACE
18
COMMUNICATION UNIT

EP 1 667 060 A1

FIG. 16

40 POINTING INFORMATION

DISPLAY DEVICE IDENTIFYING INFORMATION	DISPLAY DEIVCE ID	41
PROGRAM IDENTIFYING INFORMATION	PROGRAM NAME	33
FRAME IDENTIFYING INFORMATION	FRAME NUMBER	34
POINTING POSITION INFORMATION	COORDINATES	42

FIG. 17

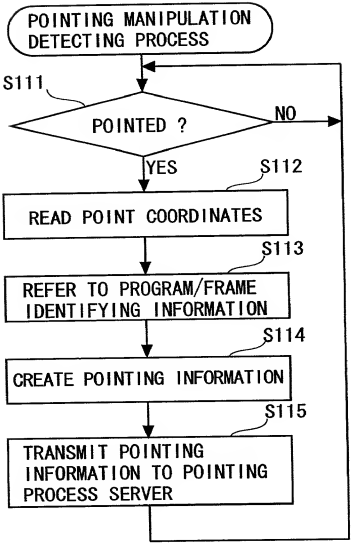

POINTING MANIPULATION DETECTING PROCESS
S111
POINTED ?
NO
YES
S112
READ POINT COORDINATES
S113
REFER TO PROGRAM/FRAME IDENTIFYING INFORMATION
S114
CREATE POINTING INFORMATION
S115
TRANSMIT POINTING INFORMATION TO POINTING PROCESS SERVER

FIG. 18

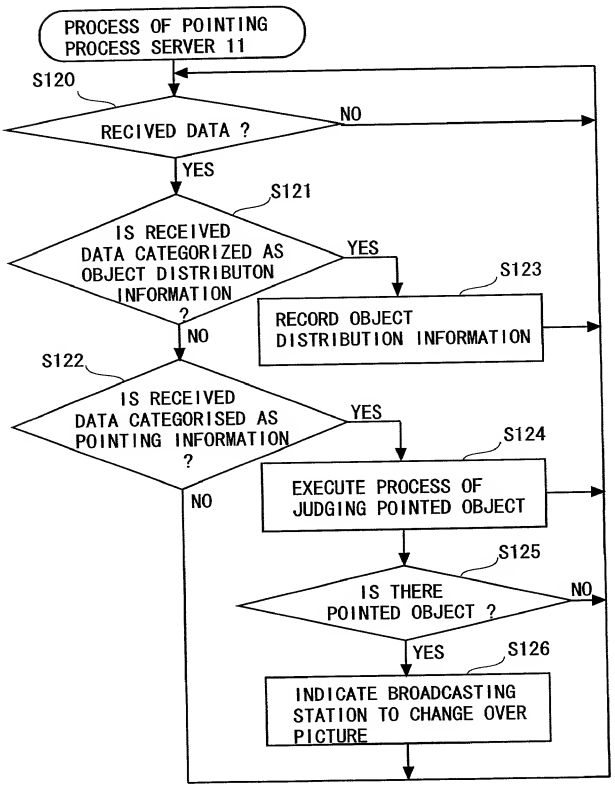

PROCESS OF POINTING PROCESS SERVER 11
S120
RECIVED DATA ?
NO
YES
S121
IS RECEIVED DATA CATEGORIZED AS OBJECT DISTRIBUTON INFORMATION ?
YES
S123
RECORD OBJECT DISTRIBUTION INFORMATION
NO
S122
IS RECEIVED DATA CATEGORISED AS POINTING INFORMATION ?
YES
S124
EXECUTE PROCESS OF JUDGING POINTED OBJECT
NO
S125
IS THERE POINTED OBJECT ?
NO
YES
S126
INDICATE BROADCASTING STATION TO CHANGE OVER PICTURE

FIG. 19

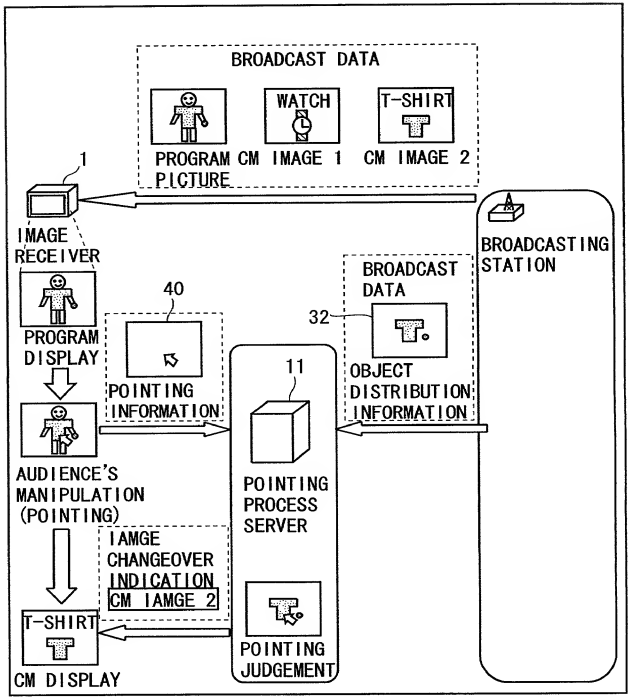
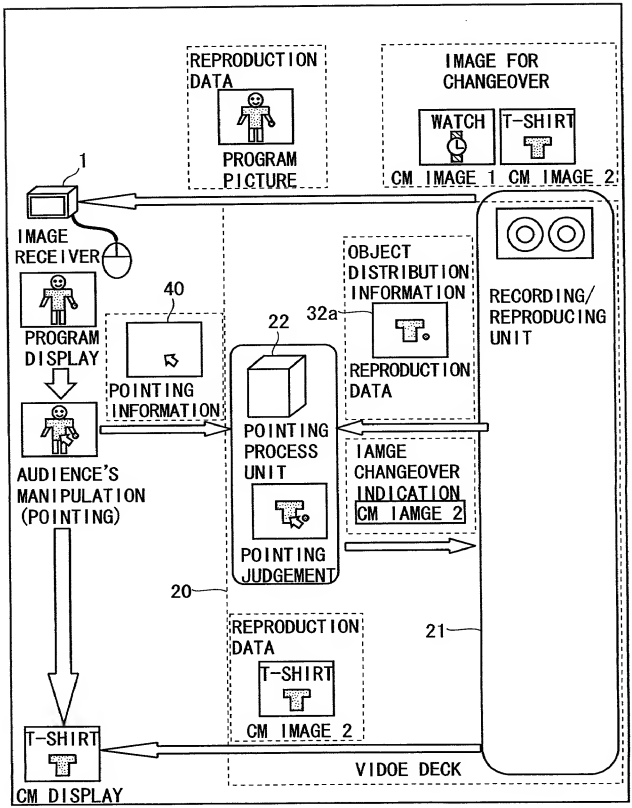

BROADCAST DATA
WATCH
T-SHIRT
PROGRAM PICTURE
CM IMAGE 1
CM IMAGE 2
1
IMAGE RECEIVER
BROADCASTING STATION
BROADCAST DATA
32
40
PROGRAM DISPLAY
POINTING INFORMATION
11
OBJECT DISTRIBUTION INFORMATION
AUDIENCE'S MANIPULATION (POINTING)
POINTING PROCESS SERVER
IAMGE CHANGEOVER INDICATION CM IAMGE 2
T-SHIRT
POINTING JUDGEMENT
CM DISPLAY

FIG. 20


REPRODUCTION DATA
PROGRAM PICTURE
IMAGE FOR CHANGEOVER
WATCH
T-SHIRT
CM IMAGE 1
CM IMAGE 2
1
IMAGE RECEIVER
OBJECT DISTRIBUTION INFORMATION
RECORDING/ REPRODUCING UNIT
40
22
32a
PROGRAM DISPLAY
POINTING INFORMATION
REPRODUCTION DATA
POINTING PROCESS UNIT
IAMGE CHANGEOVER INDICATION
CM IAMGE 2
AUDIENCE'S MANIPULATION (POINTING)
POINTING JUDGEMENT
20
21
REPRODUCTION DATA
T-SHIRT
CM IMAGE 2
T-SHIRT
VIDOE DECK
CM DISPLAY

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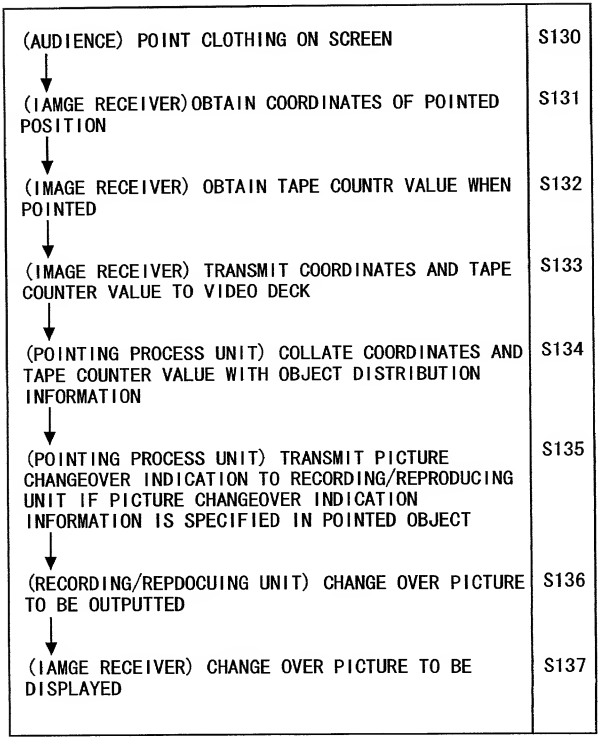
32a

FIG. 21

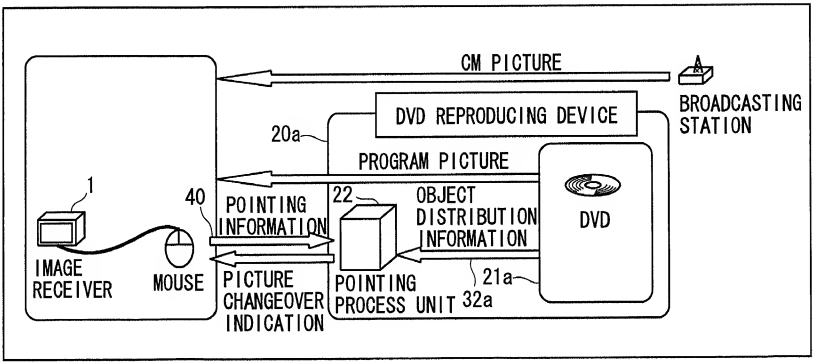
PROGRAM IDENTIFYING INFORMATION	PROGRAM NAME OF POINTED IMAGE	33
FRAME IDENTIFYING INFORMATION	TAPE COUNTER VALUE AT FRAME OF POINTED IAMGE (TAPE HEAD IS SET TO 0)	34
OBJECT SHAPE INFORMATION	RANGE OF COORDINATES	35
PICTURE CHANGEOVER INDICATION INFORMATION	TAPENUMBER, TAPE COUNTER VALUE OF FRAME AFTER CHANGEOVER	50

FIG. 22


(AUDIENCE) POINT CLOTHING ON SCREEN
S130
(IAMGE RECEIVER)OBTAIN COORDINATES OF POINTED POSITION
S131
(IMAGE RECEIVER) OBTAIN TAPE COUNTR VALUE WHEN POINTED
S132
(IMAGE RECEIVER) TRANSMIT COORDINATES AND TAPE COUNTER VALUE TO VIDEO DECK
S133
(POINTING PROCESS UNIT) COLLATE COORDINATES AND TAPE COUNTER VALUE WITH OBJECT DISTRIBUTION INFORMATION
S134
(POINTING PROCESS UNIT) TRANSMIT PICTURE CHANGEOVER INDICATION TO RECORDING/REPRODUCING UNIT IF PICTURE CHANGEOVER INDICATION INFORMATION IS SPECIFIED IN POINTED OBJECT
S135
(RECORDING/REPDOCUING UNIT) CHANGE OVER PICTURE TO BE OUTPUTTED
S136
(IAMGE RECEIVER) CHANGE OVER PICTURE TO BE DISPLAYED
S137

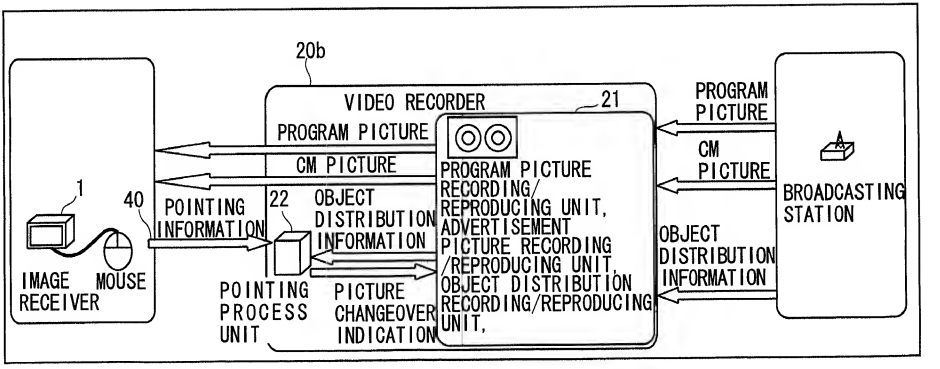
US6760065660

FIG. 23



EP 1 655 660 A2

FIG. 24



JP 2007-060660 A 2007.03.08

FIG. 25

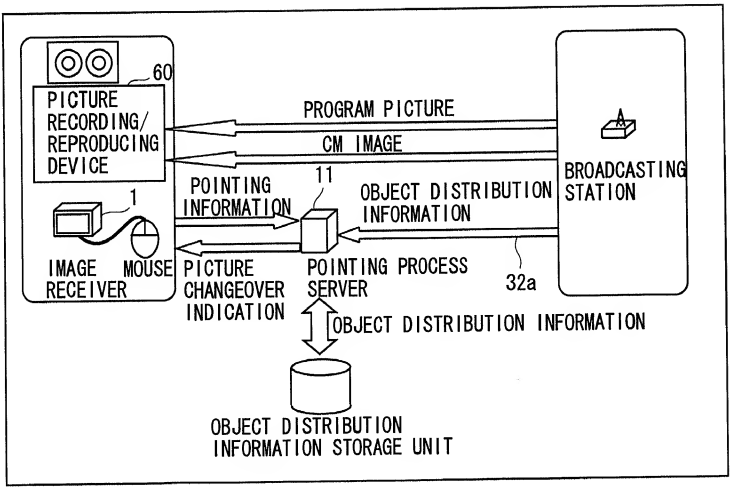


FIG. 26

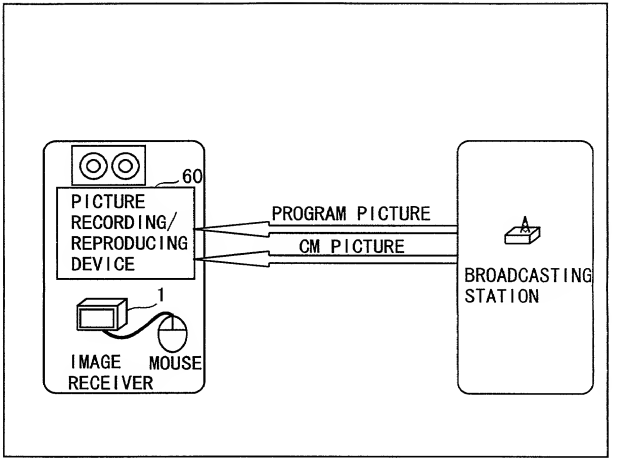

60
PICTURE RECORDING/ REPRODUCING DEVICE
PROGRAM PICTURE
CM PICTURE
BROADCASTING STATION
1
IMAGE RECEIVER
MOUSE

FIG. 27

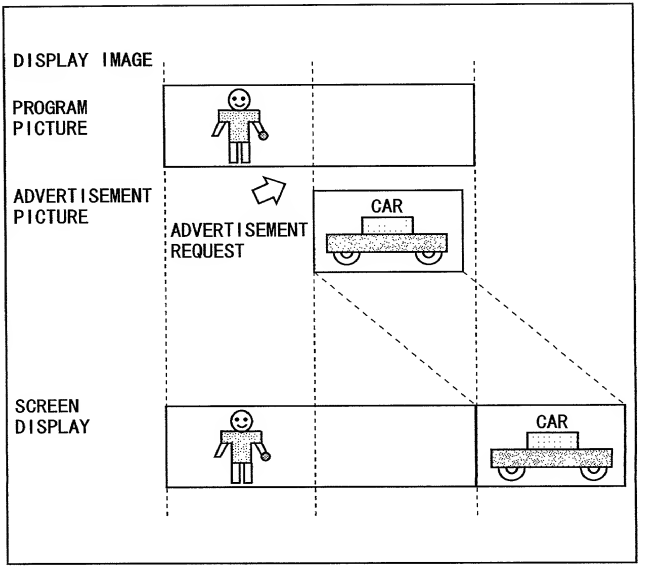

DISPLAY IMAGE
PROGRAM PICTURE
ADVERTISEMENT PICTURE
ADVERTISEMENT REQUEST
CAR
SCREEN DISPLAY
CAR

FIG. 28

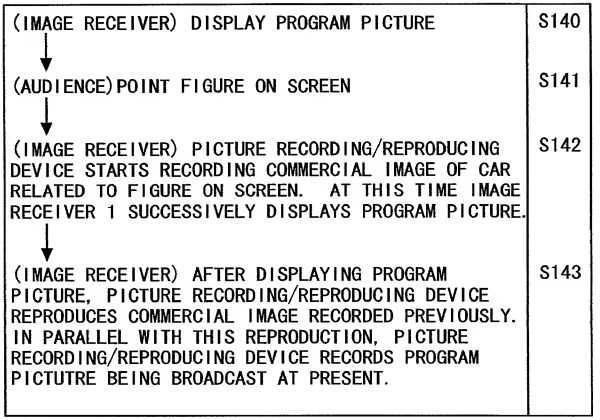

(IMAGE RECEIVER) DISPLAY PROGRAM PICTURE
S140
(AUDIENCE) POINT FIGURE ON SCREEN
S141
(IMAGE RECEIVER) PICTURE RECORDING/REPRODUCING DEVICE STARTS RECORDING COMMERCIAL IMAGE OF CAR RELATED TO FIGURE ON SCREEN. AT THIS TIME IMAGE RECEIVER 1 SUCCESSIVELY DISPLAYS PROGRAM PICTURE.
S142
(IMAGE RECEIVER) AFTER DISPLAYING PROGRAM PICTURE, PICTURE RECORDING/REPRODUCING DEVICE REPRODUCES COMMERCIAL IMAGE RECORDED PREVIOUSLY. IN PARALLEL WITH THIS REPRODUCTION, PICTURE RECORDING/REPRODUCING DEVICE RECORDS PROGRAM PICTUTRE BEING BROADCAST AT PRESENT.
S143

FIG. 29

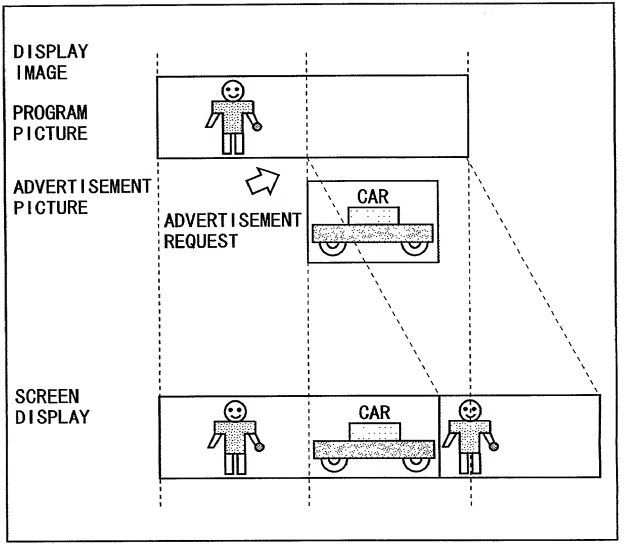

DISPLAY IMAGE
PROGRAM PICTURE
ADVERTISEMENT PICTURE
ADVERTISEMENT REQUEST
CAR
SCREEN DISPLAY
CAR

FIG. 30

(IMAGE RECIEVER) DISPLAY PROGRAM PICTURE ↓	S150
(AUDIENCE) CLICK FIGURE ON SCREEN ↓	S151
(IMAGE RECEIVER) DISPLAY COMMERCIAL IAMGE OF CAR RELATED TO FIGURE ON SCREEN. AT THIS TIME, PICTURE RECORDING/REPRODUCING DEVICE STARTS RECORDING PROGRAM PICTURE. ↓	S152
(IMAGE RECEIVER) AFTER END OF DISPLAY OF COMMERCIAL IMAGE, PICTURE RECORDING/REPRODUCING DEVICE REPRODUCES REST OF PROGRAM PICTURE RECORDED PREVIOUSLY, AND IN THE MEANTIME FURTHER RECORDS NEXT PROGRAM.	S153

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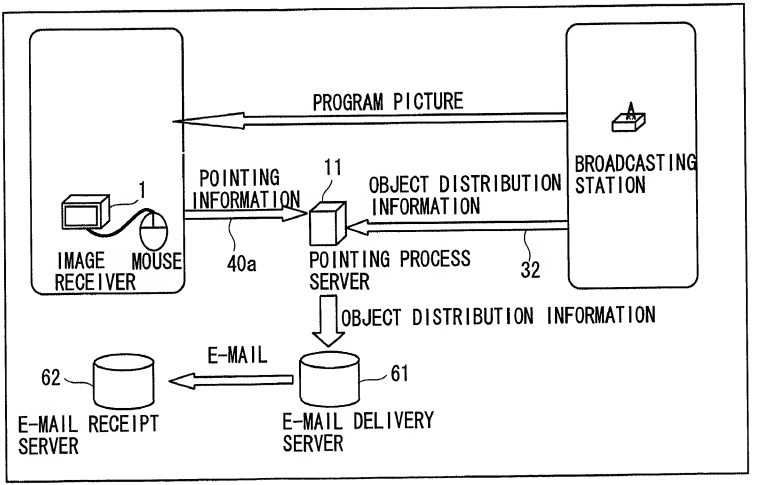
FIG. 31



JP 2007-052666

FIG. 32

40a POINTING INFORMATION

DISPLAY DEVICE IDENTIFYING INFORMATION	DISPLAY DEVICE ID	41
PROGRAM IDENTIFYING INFORMATION	PROGRAM NAME	33
FRAME IDENTIFYING INFORMATION	FRAME NUMBER	34
POINTED POSITION	COORDINATES	42
E-MAIL DESTINATION ADDRESS	ADDRESS	43

US6760065660

FIG. 33

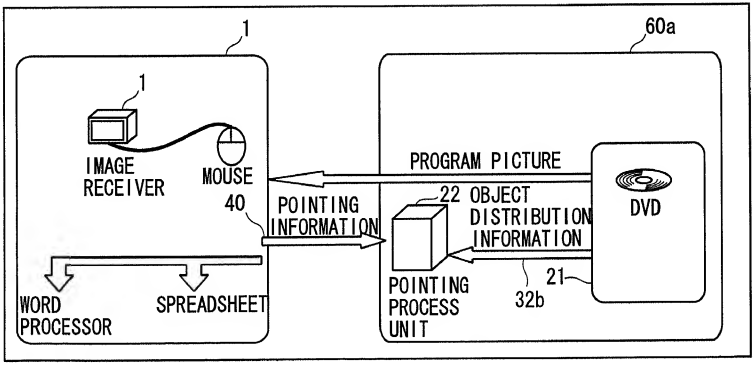


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FIG. 34

32b OBJECT DISTRIBUTION INFORMATION

MEDIUM IDENTIFYING INFORMATION	MEDIUM ID	38
PROGRAM IDENTIFYING INFORMATION	PROGRAM NAME (PC BEGINNER' S GUIDE)	33
FRAME IDENTIFYING INFORMATION	FRAME NUMBER	34
OBJECT SHAPE INFORMATION	OBJECT NUMBER	35
EXECUTABLE IMAGE FILE NAME OF PROGRAM	PROGRAM EXECUTION FORMAT FILE NAME	39

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FIG. 35

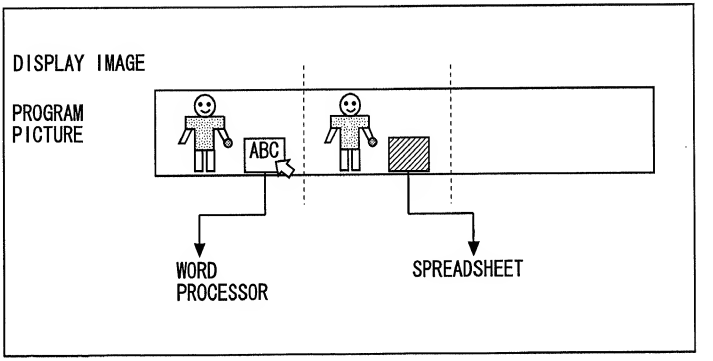

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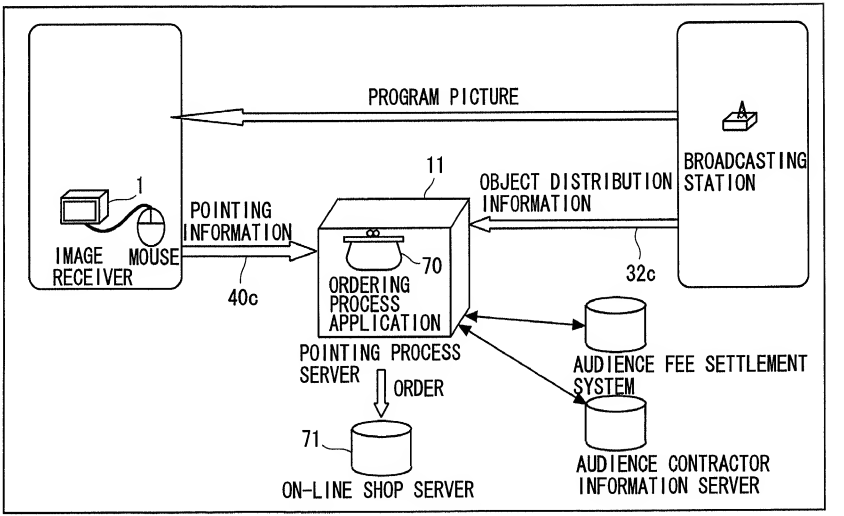
FIG. 36



TOGTOO'GSOSSOEO

FIG. 37

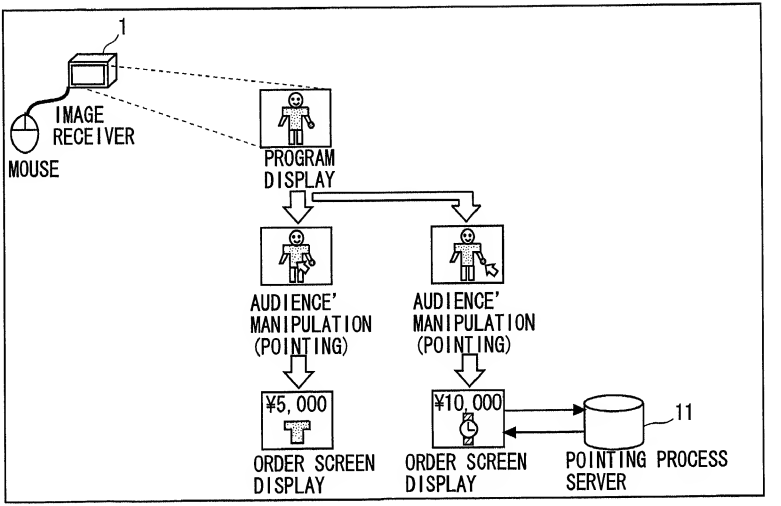


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FIG. 38

32c OBJECT DISTRIBUTION INFORMATION

PROGRAM IDENTIFYING INFORMATION	PROGRAM NAME	33
FRAME IDENTIFYING INFORMATION	RANGE OF FRAME NUMBERS	34
OBJECT SHAPE INFORMATION	COORDINATES RANGE	35
ARITCLE IDENTIFYING INFORMATION	ORDER CODE	55
ARTICLE PRICE	ARTICLE PRICE	56

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FIG. 39

40c POINTING INFORMATIO

AUDIENCE CONTRACTOR IDENTIFYING INFORMATION	AUDIENCE CONTRACT ID	57
PROGRAM IDENTIFYING INFORMATION	PROGRAM NAME	33
FRAME IDENTIFYING INFORMATION	FRAME NUMBERS	34
POINTING POSITION INFORMATION	COORDINATES	35

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FIG. 40

AUDIENCE CONTRACTOR INFORMATION

AUDIENCE CONTRACTOR IDENTIFYING INFORMATION	AUDIENCE CONTRACT ID
NAME	NAME
ADDRESS	ADDRESS

US6760065660

FIG. 41

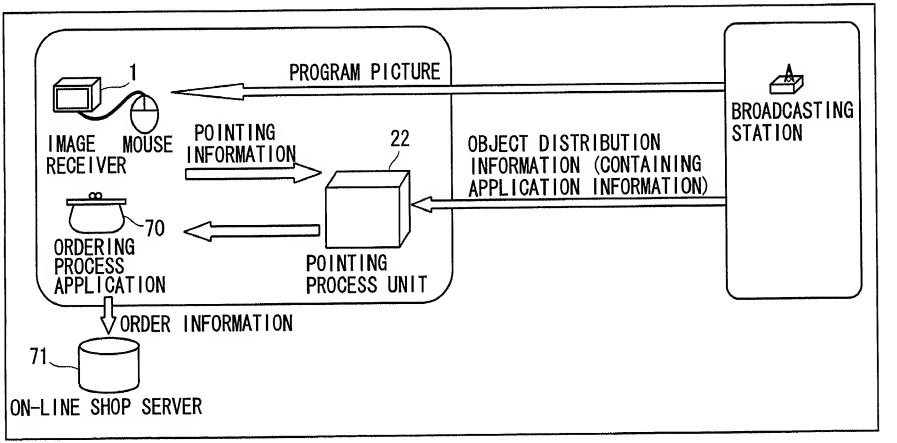

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FIG. 42

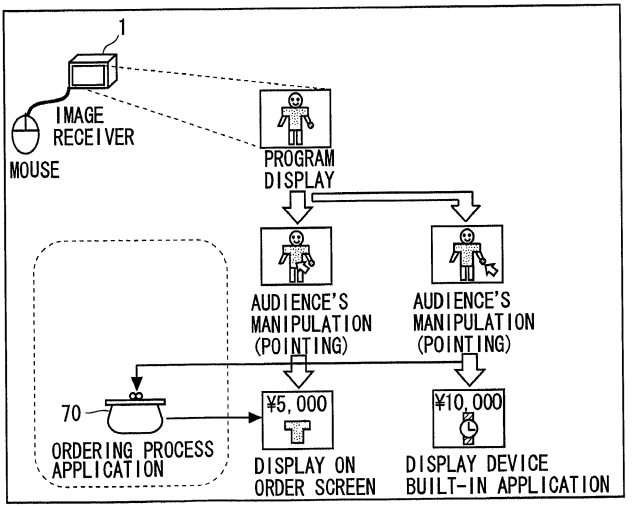

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FIG. 43

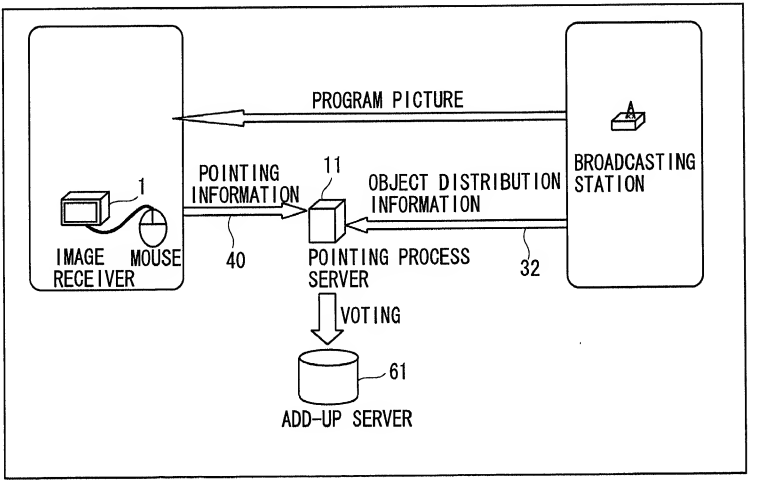

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FIG. 44

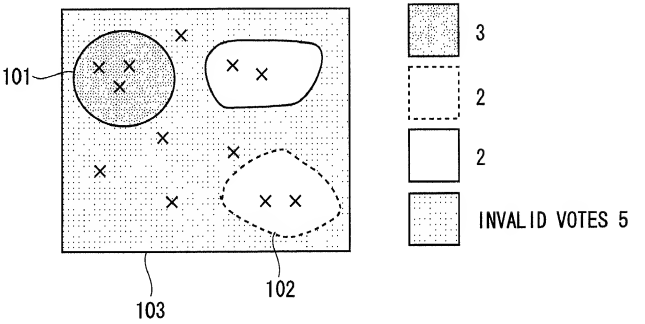


FIG. 45

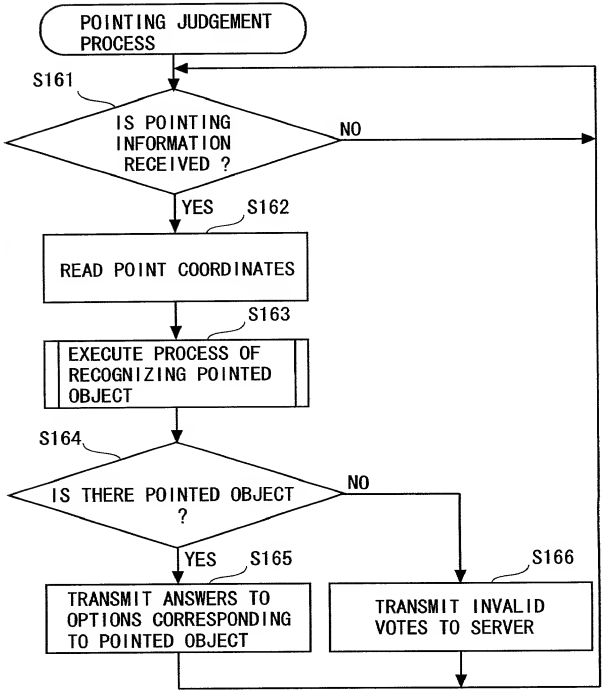

POINTING JUDGEMENT PROCESS
S161
IS POINTING INFORMATION RECEIVED ?
NO
YES
S162
READ POINT COORDINATES
S163
EXECUTE PROCESS OF RECOGNIZING POINTED OBJECT
S164
IS THERE POINTED OBJECT ?
NO
YES
S165
TRANSMIT ANSWERS TO OPTIONS CORRESPONDING TO POINTED OBJECT
S166
TRANSMIT INVALID VOTES TO SERVER

FIG. 46

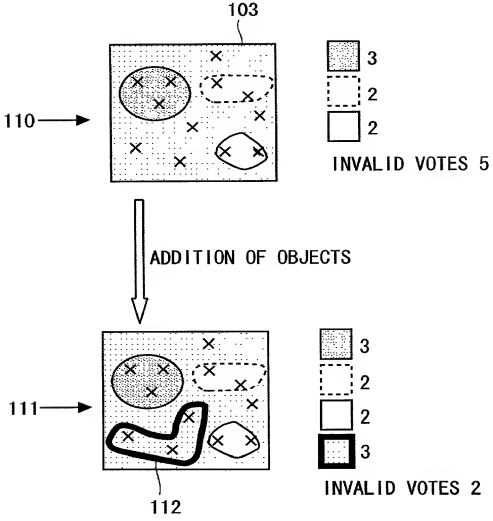

103
110
3
2
2
INVALID VOTES 5
ADDITION OF OBJECTS
111
3
2
2
3
INVALID VOTES 2
112

FIG. 47

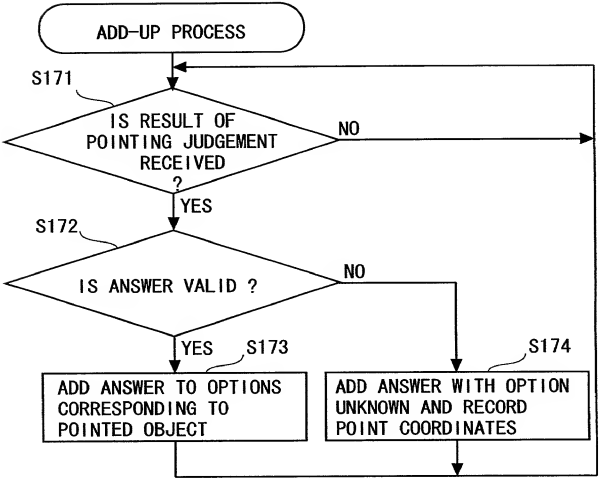

ADD-UP PROCESS
S171
IS RESULT OF POINTING JUDGEMENT RECEIVED ?
NO
YES
S172
IS ANSWER VALID ?
NO
YES
S173
ADD ANSWER TO OPTIONS CORRESPONDING TO POINTED OBJECT
S174
ADD ANSWER WITH OPTION UNKNOWN AND RECORD POINT COORDINATES

FIG. 48

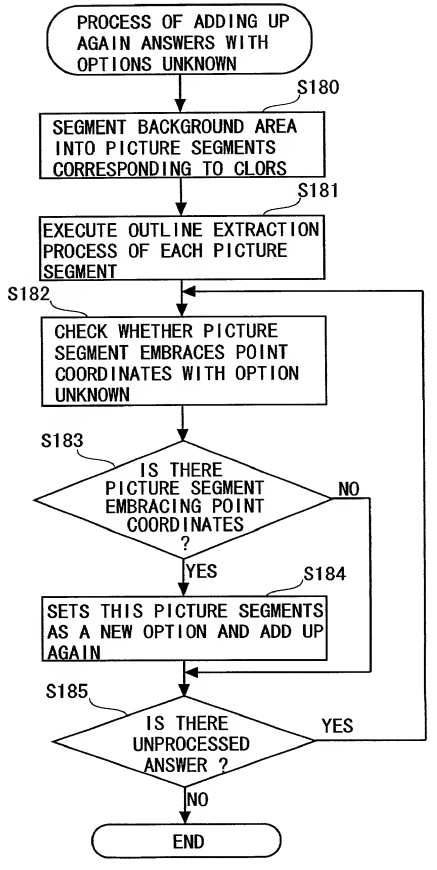

PROCESS OF ADDING UP AGAIN ANSWERS WITH OPTIONS UNKNOWN
S180
SEGMENT BACKGROUND AREA INTO PICTURE SEGMENTS CORRESPONDING TO CLORS
S181
EXECUTE OUTLINE EXTRACTION PROCESS OF EACH PICTURE SEGMENT
S182
CHECK WHETHER PICTURE SEGMENT EMBRACES POINT COORDINATES WITH OPTION UNKNOWN
S183
IS THERE PICTURE SEGMENT EMBRACING POINT COORDINATES ?
NO
YES
S184
SETS THIS PICTURE SEGMENTS AS A NEW OPTION AND ADD UP AGAIN
S185
IS THERE UNPROCESSED ANSWER ?
YES
NO
END

FIG. 49

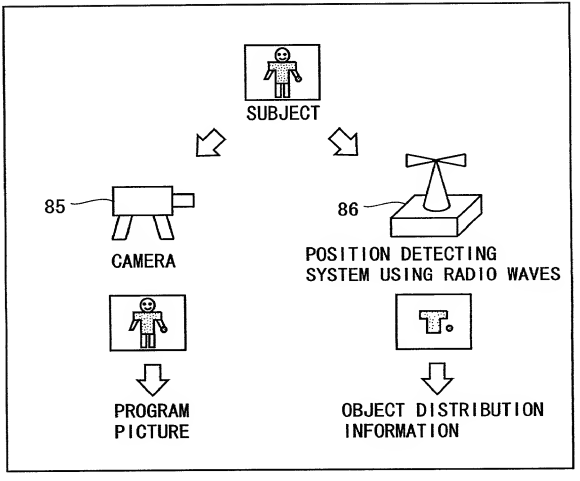

SUBJECT
85
CAMERA
86
POSITION DETECTING SYSTEM USING RADIO WAVES
PROGRAM PICTURE
OBJECT DISTRIBUTION INFORMATION

FIG. 50

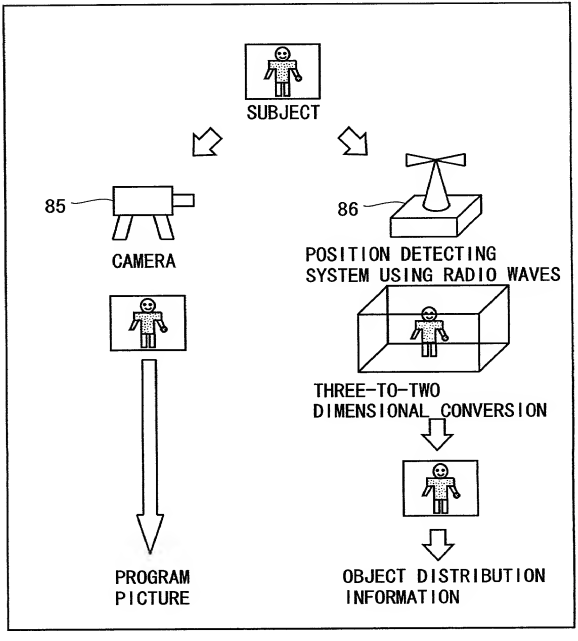

SUBJECT
85
CAMERA
86
POSITION DETECTING SYSTEM USING RADIO WAVES
THREE-TO-TWO DIMENSIONAL CONVERSION
PROGRAM PICTURE
OBJECT DISTRIBUTION INFORMATION

FIG. 51

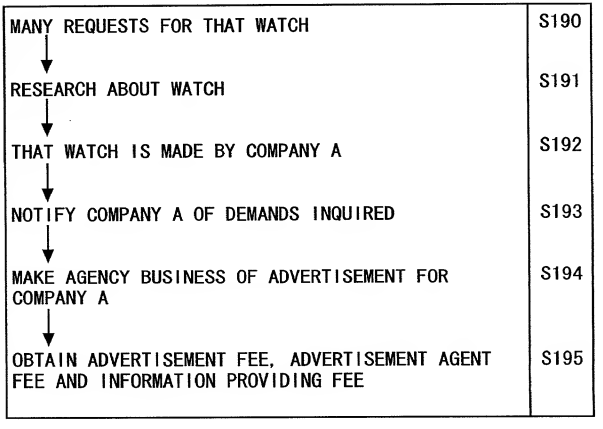

MANY REQUESTS FOR THAT WATCH
S190
RESEARCH ABOUT WATCH
S191
THAT WATCH IS MADE BY COMPANY A
S192
NOTIFY COMPANY A OF DEMANDS INQUIRED
S193
MAKE AGENCY BUSINESS OF ADVERTISEMENT FOR COMPANY A
S194
OBTAIN ADVERTISEMENT FEE, ADVERTISEMENT AGENT FEE AND INFORMATION PROVIDING FEE
S195

FIG. 52

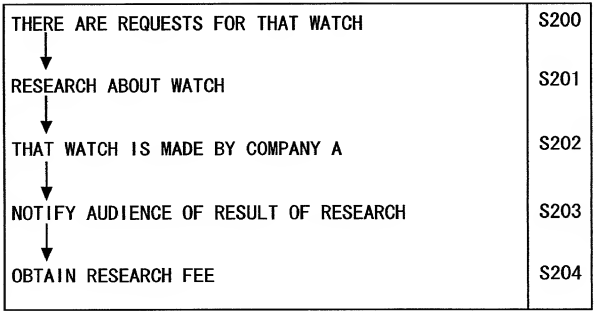
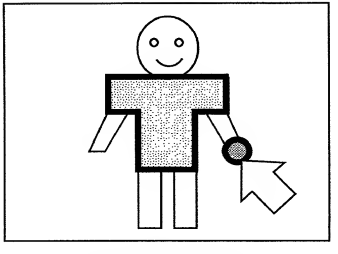
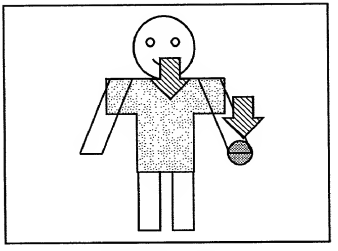

THERE ARE REQUESTS FOR THAT WATCH
S200
RESEARCH ABOUT WATCH
S201
THAT WATCH IS MADE BY COMPANY A
S202
NOTIFY AUDIENCE OF RESULT OF RESEARCH
S203
OBTAIN RESEARCH FEE
S204

FIG. 53



ENHANCED DISPLAY

FIG. 54



ENHANCED DISPLAY

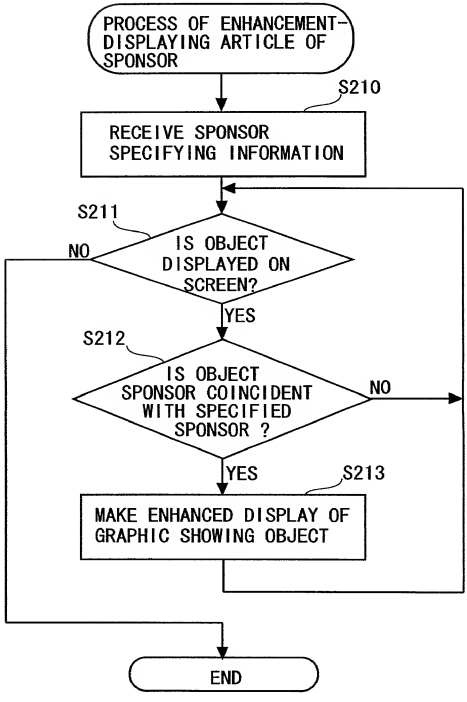
09955059.091901

US 2008/0056680 A1

FIG. 55

PROGRAM IDENTIFYING INFORMATION (CHANNEL NUMBER, PROGRAM NAME)					33
CH1, MISTERIOUS STORY NO. 52					
SPONSOR INFORMATION					90
○○MOTOR CORPORATION					
FRAME IDENTIFYING INFORMATION (TOTAL FRAME COUNT FROM BEGINNING OF PROGRAM)					34
3420TH FRAME					
OBJECT SHAPE INFORMATION					35
OBJECT NUMBER	X1	Y1	X2	Y2	
1	50	50	350	100	
1	100	100	300	300	
2	365	150	385	155	
2	355	155	395	160	
2	345	160	405	180	
2	355	180	395	185	
2	365	185	385	190	

FIG. 56


PROCESS OF ENHANCEMENT-DISPLAYING ARTICLE OF SPONSOR
S210
RECEIVE SPONSOR SPECIFYING INFORMATION
S211
IS OBJECT DISPLAYED ON SCREEN?
NO
YES
S212
IS OBJECT SPONSOR COINCIDENT WITH SPECIFIED SPONSOR ?
NO
YES
S213
MAKE ENHANCED DISPLAY OF GRAPHIC SHOWING OBJECT
END

US 2010/0053660

FIG. 57

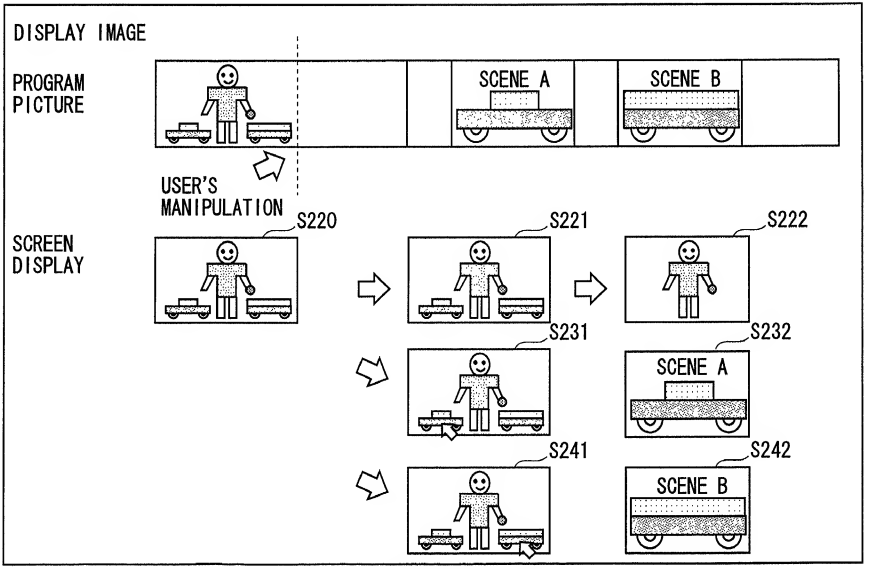


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FIG. 58

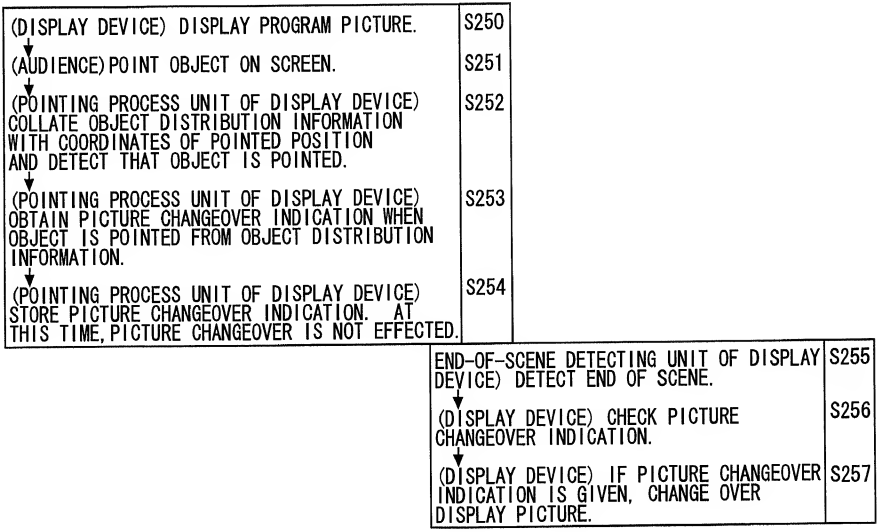

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FIG. 59

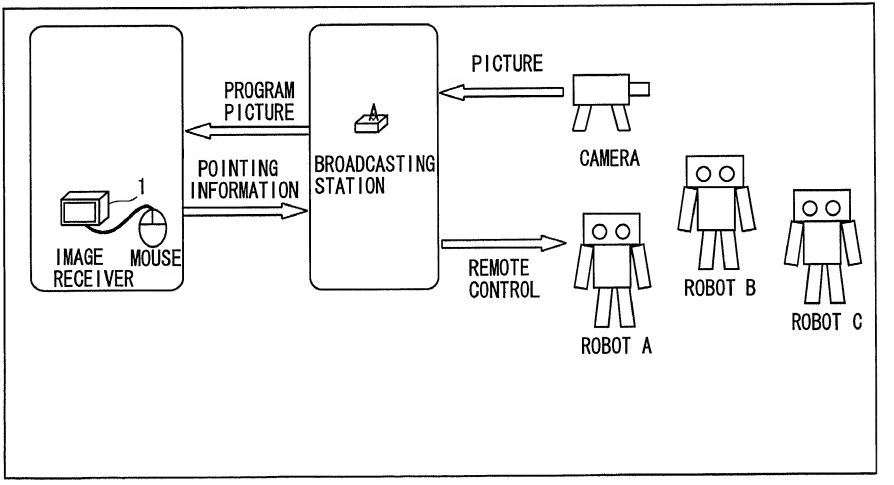


FIG. 60

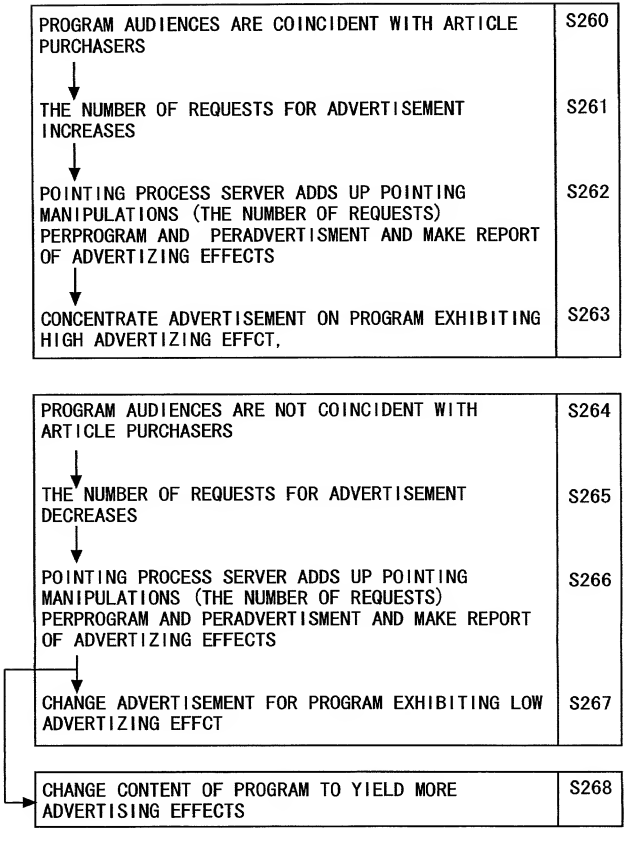

PROGRAM AUDIENCES ARE COINCIDENT WITH ARTICLE PURCHASERS
S260
THE NUMBER OF REQUESTS FOR ADVERTISEMENT INCREASES
S261
POINTING PROCESS SERVER ADDS UP POINTING MANIPULATIONS (THE NUMBER OF REQUESTS) PERPROGRAM AND PERADVERTISMENT AND MAKE REPORT OF ADVERTIZING EFFECTS
S262
CONCENTRATE ADVERTISEMENT ON PROGRAM EXHIBITING HIGH ADVERTIZING EFFCT,
S263
PROGRAM AUDIENCES ARE NOT COINCIDENT WITH ARTICLE PURCHASERS
S264
THE NUMBER OF REQUESTS FOR ADVERTISEMENT DECREASES
S265
POINTING PROCESS SERVER ADDS UP POINTING MANIPULATIONS (THE NUMBER OF REQUESTS) PERPROGRAM AND PERADVERTISMENT AND MAKE REPORT OF ADVERTIZING EFFECTS
S266
CHANGE ADVERTISEMENT FOR PROGRAM EXHIBITING LOW ADVERTIZING EFFCT
S267
CHANGE CONTENT OF PROGRAM TO YIELD MORE ADVERTISING EFFECTS
S268

FIG. 61

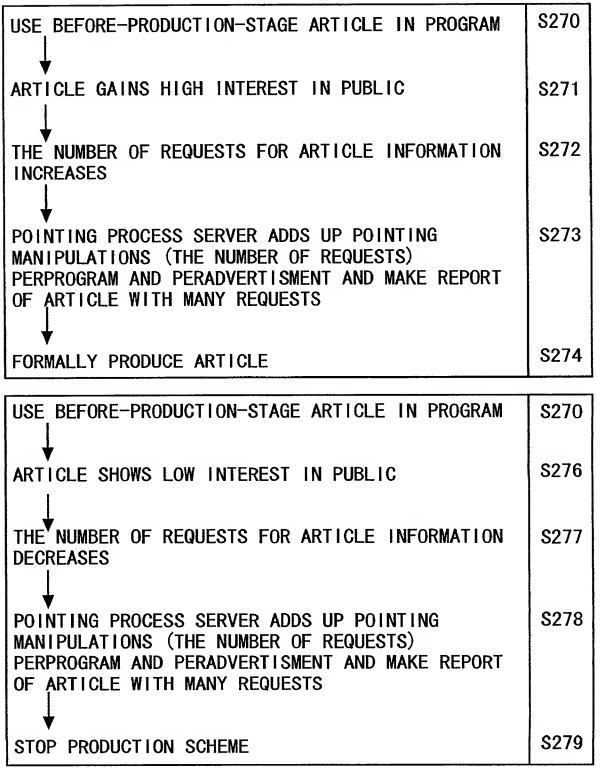
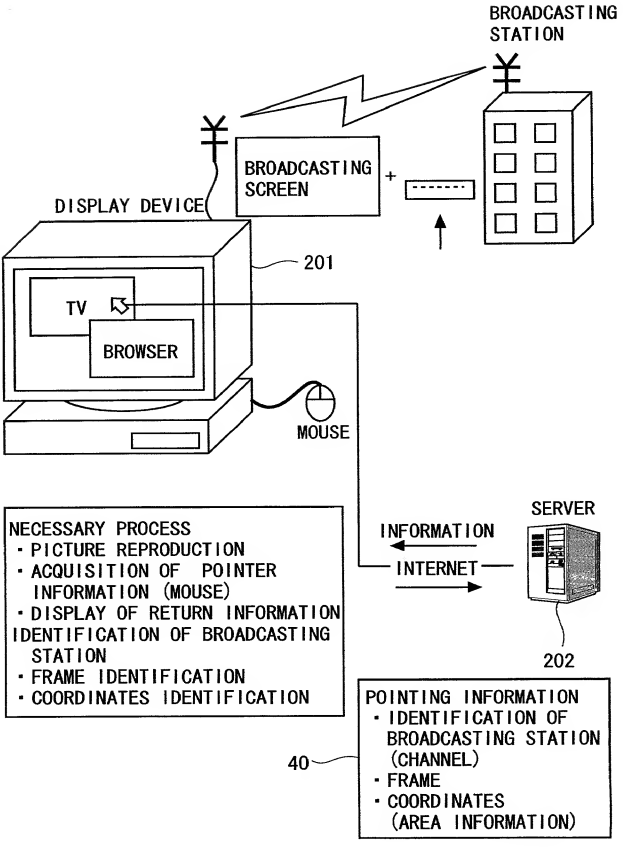

USE BEFORE-PRODUCTION-STAGE ARTICLE IN PROGRAM
S270
ARTICLE GAINS HIGH INTEREST IN PUBLIC
S271
THE NUMBER OF REQUESTS FOR ARTICLE INFORMATION INCREASES
S272
POINTING PROCESS SERVER ADDS UP POINTING MANIPULATIONS (THE NUMBER OF REQUESTS) PERPROGRAM AND PERADVERTISMENT AND MAKE REPORT OF ARTICLE WITH MANY REQUESTS
S273
FORMALLY PRODUCE ARTICLE
S274
USE BEFORE-PRODUCTION-STAGE ARTICLE IN PROGRAM
S270
ARTICLE SHOWS LOW INTEREST IN PUBLIC
S276
THE NUMBER OF REQUESTS FOR ARTICLE INFORMATION DECREASES
S277
POINTING PROCESS SERVER ADDS UP POINTING MANIPULATIONS (THE NUMBER OF REQUESTS) PERPROGRAM AND PERADVERTISMENT AND MAKE REPORT OF ARTICLE WITH MANY REQUESTS
S278
STOP PRODUCTION SCHEME
S279

FIG. 62


BROADCASTING STATION
BROADCASTING SCREEN
+
DISPLAY DEVICE
201
TV
BROWSER
MOUSE
NECESSARY PROCESS
・PICTURE REPRODUCTION
・ACQUISITION OF POINTER INFORMATION (MOUSE)
・DISPLAY OF RETURN INFORMATION
IDENTIFICATION OF BROADCASTING STATION
・FRAME IDENTIFICATION
・COORDINATES IDENTIFICATION
INFORMATION
INTERNET
SERVER
202
POINTING INFORMATION
・IDENTIFICATION OF BROADCASTING STATION (CHANNEL)
・FRAME
・COORDINATES (AREA INFORMATION)
40